

Naoyuki TAKAHASHI, Takato NAKAMURA, Satoshi NONAKA,
Applicant or Patentee: Hiromi YAGI, Yoicui SHINRIKI, Katsumi TAMANUKI Attorney's
Serial or Patent No.: _____ Docket No.: _____
Filed or Issued: Concurrently

For: CRYSTAL THIN FILM AND PRODUCTION METHOD THEREFOR
VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27(c)) - SMALL BUSINESS CONCERN

I hereby declare that I am

☐ the owner of the small business concern identified below;

☒ an official of the small business concern empowered to act on behalf of the concern identified below;

NAME OF CONCERN Humo Laboratory, Ltd.

ADDRESS OF CONCERN 19-11, Nishiogikita 5-chome, Suginami-ku, Tokyo, JAPAN

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 12 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other either directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention, entitled CRYSTAL THIN FILM AND PRODUCTION by inventor(s) Naoyuki TAKAHASHI, Takato NAKAMURA, METHOD THEREFOR described in Satoshi NONAKA, Hiromi YAGI, Yoichi SHINRIKI AND

☒ the specification filed herewith Katsumi TAMANUKI

☐ application serial no. _____, filed _____.

☐ patent no. _____, issued _____.

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed below* and no rights to the invention are held by any person, other than the inventor, who could not qualify as an independent inventor under 37 CFR 1.9(c) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e). *NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

NAME _____

ADDRESS _____

☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING Yoichi SHINRIKI

TITLE OF PERSON OTHER THAN OWNER President

ADDRESS OF PERSON SIGNING 16-1-303, Sakae-cho 1-chome, Tachikawa-shi, Tokyo

SIGNATURE *Yoichi Shinriki* DATE December 29, 2000 JAPAN

Naoyu TAKAHASHI, Takato NAKAMURA, Satoshi NONAKA,
Applicant or Patentee: Hiromi YAGI, Yoichi SHINRIKI, Katsumi TAMANUKI Attorney's
Serial or Patent No.: _____ Docket No.: _____
Filed or Issued: Concurrently
For: CRYSTAL THIN FILM AND PRODUCTION METHOD THEREFOR

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27(b)) - INDEPENDENT INVENTOR

As below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled CRYSTAL THIN FILM AND PRODUCTION METHOD THEREFOR described in

☒ the specification filed herewith

☐ application serial no. _____, filed _____

☐ patent no. _____, issued _____

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey or license any rights in the invention is listed below:

☐ no such person, concern or organization

☒ persons, concerns or organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27).

FULL NAME Humo Laboratory, Ltd.

ADDRESS 19-11, Nishiogikita 5-chome, Suginami-ku, Tokyo, JAPAN

☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any changes in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Naoyuki TAKAHASHI	Takato NAKAMURA	Satoshi NONAKA
NAME OF INVENTOR	NAME OF INVENTOR	NAME OF INVENTOR
<u>Naoyuki Takahashi</u>	<u>Takato Nakamura</u>	<u>Satoshi Nonaka</u>
SIGNATURE OF INVENTOR	SIGNATURE OF INVENTOR	SIGNATURE OF INVENTOR
<u>29 December, 2000</u>	<u>29 December, 2000</u>	<u>29 December, 2000</u>
DATE	DATE	DATE

Hiromi YAGI	Yoichi SHINRIKI	Katsumi TAMANUKI
NAME OF INVENTOR	NAME OF INVENTOR	NAME OF INVENTOR
<u>Hiromi Yagi</u>	<u>Y. Shinriki</u>	<u>K. Tamamuki</u>
SIGNATURE OF INVENTOR	SIGNATURE OF INVENTOR	SIGNATURE OF INVENTOR
<u>29 December, 2000</u>	<u>29 December, 2000</u>	<u>29 December, 2000</u>
DATE	DATE	DATE

POWER OF ATTORNEY, 1 SIGNATION OF CORRESPONDENT ADDRESS

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and that I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

CRYSTAL THIN FILM AND PRODUCTION METHOD THEREFOR

the specification of which

is attached hereto.

[] was filed on _____ as Application No. _____

and was amended on _____ [if applicable].

[] was filed under the Patent Cooperation Treaty on _____

Serial No. _____, the United States of America being designated.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent, utility model, design or inventor's certificate listed below and have also identified below any foreign application(s) for patent, utility model, design or inventor's certificate having a filing date before that of the application(s) on which priority is claimed:

Prior Foreign Application(s)		Priority Claimed	
Number	Country	Date Filed	Yes No
2000-270300	JAPAN	September 6, 2000	X

I hereby appoint the following attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: George H. Spencer (Reg. No. 18,038), Norman N. Kunitz (Reg. No. 20,586), Robert J. Frank (Reg. No. 19,112), Gabor J. Kelemen (Reg. No. 21,016), Robert Kinberg (Reg. No. 26,924), John W. Schneller (Reg. No. 26,031), Ashley J. Wells (Reg. No. 29,847), Allen Wood (Reg. No. 28,134), P.O. Box 34385, Washington, D.C. 20043-9998, Telephone: (202) 962-4800, Telefax: (202) 962-8300. Address all correspondence to VENABLE, BAETJER, HOWARD & CIVILETTI, LLP, P.O. Box 34385, Washington, D.C. 20043-9998.

The undersigned hereby authorizes the U.S. attorneys named herein to accept and follow instructions from the undersigned's assignee, if any, and/or, if the undersigned is not a resident of the United States, the undersigned's domestic attorney, patent attorney or patent agent, as to any action to be taken in the Patent and Trademark Office regarding this application without direct communication between the U.S. attorneys and the undersigned. In the event of a change in the person(s) from whom instructions may be taken, the U.S. attorneys named herein will be so notified by the undersigned.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signature: Naoyuki Takahashi Date: 29 December, 2000.

Sole or First Joint Inventor: Naoyuki TAKAHASHI

Citizenship: JAPAN

Residence and Post Office Address: #1-505, 266 Nazuka-cho, Hamamatsu-shi, Shizuoka-ken

Signature: Takato Nakamura Date: 29 December, 2000.

Second Joint Inventor: Takato NAKAMURA

Citizenship: JAPAN

Residence and Post Office Address: 78-9-605, Nakazawa-cho, Hamamatsu-shi, Shizuoka-ken

Signature: Satoshi Nonaka Date: 29 December, 2000.

Third Joint Inventor: Satoshi NONAKA

Citizenship: JAPAN

Residence and Post Office Address: 2378-2, Nishiyama-cho, Hamamatsu-shi, Shizuoka-ken

Signature: Hiroshi Yagi Date: 29 December, 2000.

Fourth Joint Inventor: Hiroshi YAGI

Citizenship: JAPAN

Residence and Post Office Address: 933-5, Tennou-cho, Hamamatsu-shi, Shizuoka-ken

Signature: Yoichi Shinriki Date: 29 December, 2000.

Fifth Joint Inventor: Yoichi SHINRIKI

Citizenship: JAPAN

Residence and Post Office Address: 16-1-303, Sakae-cho 1-chome, Tachikawa-shi, Tokyo

Signature: Katsumi Tamaki Date: 29 December, 2000.

Sixth Joint Inventor: Katsumi TAMAKI

Citizenship: JAPAN

Residence and Post Office Address: 168 Miyakami, Yugawara-cho, Ashigarashimogun,
Kanagawa-ken

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Naoyuki TAKAHASHI et al.

Serial No. 09/767,154

Filed: January 23, 2001

For: CRYSTAL THIN FILM AND
PRODUCTION METHOD THEREFOR

Art Unit: 1765

Examiner: Matthew J. Song

Atty. Docket No. 31721-169084

Customer No.



26694

PATENT TRADEMARK OFFICE

STATEMENT OF HISASHI INOGUCHI

Assistant Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

I, HISASHI INOGUCHI, sent a substitute specification to the law office of Venable for the subject application. I am the agent for the applicants in Japan.

I am conversant in both the Japanese and English languages.

The presentation of the substitute specification is to conform the specification to the drawings of the application filed in the U.S. and identified above. I further state that the substitute specification contains no new matter. In the application drawings the word "quartz" is used; please see Figure 6. However in translation of the Japanese language specification, the Japanese word for "quartz" may also refer to crystal. This is evidenced by comparing the terms on Figure 6 referring to quartz to the terms in the specification describing Figure 6 which refers to employs the word 'crystal' Example 2, at page 15 line 8 thereof.

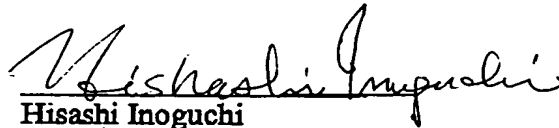
Amorphous silicon dioxide and single crystalline silicon dioxide (quartz) can be represented by the same chemical formula "SiO₂". However, single crystalline silicon dioxide has completely different physical characteristics from that of amorphous silicon dioxide. Amorphous silicon dioxide has only insulating properties and amorphous silicon dioxide thin film is often used as an insulation film for semiconductor devices. On the other hand single crystalline silicon dioxide has resonance and piezo electric characteristics.

Accordingly, it appears that the changes presented in the substitute specification are not only supported by the case as originally filed, and thus do not constitute new matter, but also will enrich the art by the disclosure as presented therein.

I further declare that all statements herein are made with the knowledge that willful false statements may jeopardize the validity of any U.S. patent issuing on the U.S. application and/or may result in fine(s) and/or imprisonment.

Date: December 11th 2002

DC2#419602


Hisashi Inoguchi